

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Robert J. Sweeney et al.	Examiner:	George Walton
Serial No.:	10/734372 10/734327	Group Art Unit:	Unknown
Filed:	December 12, 2003	Docket:	279.188US2
Title:	CURVATURE BASED METHOD FOR SELECTING FEATURES FROM AN ELECTROPHYSIOLOGIC SIGNALS FOR PURPOSE OF COMPLEX IDENTIFICATION AND CLASSIFICATION		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. §1.97(b), it is believed that no fee or statement is required with the Supplemental Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 19-0743 in order to have this Supplemental Information Disclosure Statement considered.

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Serial No. 40734372-10734327

Filing Date: December 12, 2003

Title: CURVATURE BASED METHOD FOR SELECTING FEATURES FROM AN ELECTROPHYSIOLOGIC SIGNALS FOR PURPOSE OF COMPLEX IDENTIFICATION AND CLASSIFICATION

Page 2
Dkt: 279.188US2

The Examiner is invited to contact the Applicants' Representative at the below-listed telephone number if there are any questions regarding this communication.

The present application is either a U.S. national patent application filed after June 30, 2003 or an international application that entered the national stage under 35 U.S.C. § 371 after June 30, 2003. Thus, Applicant believes that the U.S. Patent & Trademark Office has waived the requirement under 37 C.F.R. 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication. The waiver is provided in a pre-OG notice from the U.S. Patent & Trademark Office entitled "Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications filed after June 30, 2003" and dated July 11, 2003. Applicant acknowledges the requirement to submit copies of foreign patent documents and non-patent literature in accordance with 37 C.F.R. 1.98(a)(2).

Respectfully submitted,

ROBERT J. SWEENEY ET AL.

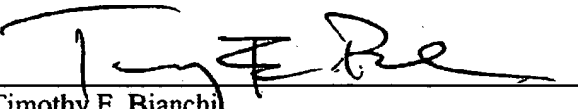
By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, MN 55402
(612) 373-6912

Date

May 4, 2004

By


Timothy E. Bianchi
Reg. No. 39,610

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 4 day of May, 2004.

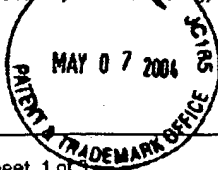
Name



Signature



Substitute for form 1449A/PTO
**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**
 (Use as many sheets as necessary)



Complete if Known

Application Number ~~10/734372~~ 10 734327
 Filing Date December 12, 2003
 First Named Inventor Sweeney, Robert
 Group Art Unit Unknown
 Examiner Name Walton, George

Sheet 1 of 3

Attorney Docket No: 279.188US2

US PATENT DOCUMENTS

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-3,828,768	08/13/1974	Douglas, D. W.	128	2.06 A	07/13/1972
	US-3,939,824	02/24/1976	Arneson, H. N., et al.	128	2.05 A	01/09/1975
	US-3,998,214	12/21/1976	Garrison, L. R.	128	2.06 A	05/19/1975
	US-4,000,461	12/28/1976	Barber, R. C., et al.	324	102	10/04/1973
	US-4,023,564	05/17/1977	Valiquette, Donley J., et al.	128	206A	01/26/1976
	US-4,336,810	06/29/1982	Anderson, D. L., et al.	128	702	09/30/1980
	US-4,583,553	04/22/1986	Shah, A. P., et al.	128	704	11/15/1983
	US-4,721,114	01/26/1988	DuFault, R. A., et al.	128	696	02/21/1986
	US-4,802,491	02/01/1989	Cohen, , et al.	600	509	
	US-4,809,697	03/07/1989	Causey III, J. D., et al.	128	419 PT	10/14/1987
	US-4,825,869	05/02/1989	Sasmor, L. , et al.	128	419 PT	09/28/1987
	US-4,838,278	06/13/1989	Wang, J. , et al.	128	697	02/26/1987
	US-4,884,345	12/05/1989	Long, R. J.	33	1 C	05/12/1988
	US-4,924,875	05/15/1990	Chamoun,	128	696	10/09/1987
	US-4,945,917	08/07/1990	Akselrod, S. , et al.	128	696	05/23/1988
	US-4,947,857	08/14/1990	Albert, , et al.	128	696	02/01/1989
	US-4,989,610	02/05/1991	Patton, , et al.	128	695	
	US-5,014,284	05/07/1991	Langer, A. A., et al.	375	30	06/30/1989
	US-5,014,698	05/14/1991	Cohen, T. J., et al.	128	419	10/02/1989
	US-5,020,540	06/04/1991	Cahmoun,	128	696	08/22/1989
	US-5,107,850	04/28/1992	Olive, A. L.	128	705	11/02/1990
	US-5,109,842	05/05/1992	Adinolfi, D. W.	128	419 D	09/24/1990
	US-5,156,148	10/20/1992	Cohen, Todd J.	128	419 PG	05/13/1991
	US-5,193,550	03/16/1993	Duffin,	129	697	11/30/1990
	US-5,240,009	08/31/1993	Williams, M. O.	128	702	03/25/1991
	US-5,247,021	09/21/1993	Fujisawa, H. , et al.	525	254	08/27/1992
	US-5,269,301	12/14/1993	Cohen, T. J.	607	6	10/19/1992
	US-5,271,411	12/21/1993	Ripley, K. L., et al.	128	702	09/10/1991
	US-5,275,621	01/04/1994	Mehra, R.	607	5	04/13/1992
	US-5,280,792	01/25/1994	Leong, Philip H., et al.	128	702	09/18/1992
	US-5,292,341	03/08/1994	Snell, J. D.	607	30	03/02/1992
	US-5,311,874	05/17/1994	Baumann, L. S., et al.	128	705	05/18/1992
	US-5,330,504	07/19/1994	Somerville, W. M., et al.	607	5	05/03/1993
	US-5,350,406	09/27/1994	Nitzsche, Remi , et al.	607	14	12/22/1992
	US-5,360,436	11/01/1994	Alt, E. , et al.	607	18	04/03/1992

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 808. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

Application Number	10734372 / 10734327
Filing Date	December 12, 2003
First Named Inventor	Sweeney, Robert
Group Art Unit	Unknown
Examiner Name	Walton, George

Sheet 2 of 3

Attorney Docket No: 279.188US2

US-5,366,487	11/22/1994	Adams, , et al.	607	5	11/04/1993
US-5,411,529	05/02/1995	Hudrik, T. R.	607	6	09/13/1993
US-5,417,221	05/23/1995	Sickler, R. L.	128	696	05/07/1993
US-5,447,524	09/05/1995	Alt, E.	607	19	07/25/1994
US-5,456,261	10/10/1995	Luczyk, W. J.	128	702	12/16/1993
US-5,464,433	11/07/1995	White, , et al.	607	5	
US-5,478,807	12/26/1995	Cronin, M. , et al.	514	12	06/23/1992
US-5,503,159	04/02/1996	Burton,	128	703	03/17/1995
US-5,513,644	05/07/1996	McClure, K. H., et al.	128	708	09/22/1994
US-5,520,191	05/28/1996	Karlsson, P , et al.	128	702	10/07/1994
US-5,549,654	08/27/1996	Powell, R. M.	607	32	04/15/1994
US-5,560,369	10/01/1996	McClure, K. H., et al.	128	704	09/22/1994
US-5,609,158	03/11/1997	Chan,	128	705	05/01/1995
US-5,622,178	04/22/1997	Gilham, J. J.	128	696	05/04/1994
US-5,628,326	05/13/1997	Arand, P. A., et al.	128	706	11/29/1995
US-5,634,468	06/03/1997	Platt, H. L., et al.	128	696	04/02/1993
US-5,645,070	07/08/1997	Turcott, R.	128	702	09/25/1995
US-5,682,900	11/01/1997	Arand, , et al.			
US-5,682,902	11/04/1997	Herleikson, E. C.	128	708	10/16/1995
US-5,683,425	11/04/1997	Hauptmann, W.	607	9	12/12/1995
US-5,685,315	11/11/1997	McClure, Kelly H., et al.	128	708	03/29/1996
US-5,687,737	11/18/1997	Branham, B. H., et al.	128	710	10/31/1994
US-5,704,365	01/06/1998	Albrecht, P. , et al.	128	702	11/14/1995
US-5,712,801	01/27/1998	Turcott, R.	364	550	09/25/1995
US-5,713,366	02/01/1998	Armstrong, , et al.			
US-5,718,242	02/01/1998	McClure, , et al.	600	515	06/26/1996
US-5,724,985	03/10/1998	Snell, J. D., et al.	128	697	08/02/1995
US-5,730,142	03/24/1998	Sun, , et al.	128	705	03/21/1997
US-5,738,104	04/14/1998	Lo, Thomas Y., et al.	128	706	11/08/1995
US-5,738,105	04/14/1998	Kroll,	128	708	10/24/1995
US-5,759,158	06/02/1998	Swanson, D. K.	600	508	08/19/1997
US-5,772,604	06/30/1998	Langberg, , et al.	600	518	03/14/1997
US-5,778,881	07/14/1998	Sun, W. , et al.	128	696	12/04/1996
US-5,782,888	07/21/1998	Sun, Weimin , et al.	607	27	03/21/1997
US-5,792,065	08/11/1998	Xue, Q. , et al.	600	516	03/18/1997
US-5,795,303	08/18/1998	Swanson, David K., et al.	600	509	09/02/1997
US-5,797,399	08/25/1998	Morris, M. M., et al.	128	705	04/19/1996
US-5,819,007	10/06/1998	Elghazzawi,	395	51	03/15/1996
US-5,819,741	10/13/1998	Karlsson,			
US-5,827,197	10/27/1998	Bocek, J. M., et al.	600	518	11/14/1997
US-5,848,972	12/15/1998	Triedman, J. K., et al.	600	508	09/13/1996

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1449)

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached

Substitute for form 1449A/PTO
**INFORMATION DISCLOSURE
 STATEMENT BY APPLICANT**
 (Use as many sheets as necessary)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it carries a valid OMB control number.

PTO/SB/006A (10-01)
 Approved for use through 10/31/2002 OMB 651-0031
 US Patent & Trademark Office U.S. DEPARTMENT OF COMMERCE

Complete if Known

Application Number	10/734372 10734327
Filing Date	December 12, 2003
First Named Inventor	Sweeney, Robert
Group Art Unit	Unknown
Examiner Name	Walton, George

Sheet 3 of 3

Attorney Docket No: 279.188US2

US-5,857,977	01/12/1999	Caswell, Stephanie A., et al.	600	518	08/08/1996
US-5,858,977	01/12/1999	Aukerman, S. L., et al.	514	12	10/12/1995
US-5,868,680	02/09/1999	Steiner, P. R., et al.	600	518	09/23/1997
US-5,935,082	08/10/1999	Albrecht, P., et al.	600	515	05/15/1997
US-5,954,661	09/21/1999	Greenspon, A J., et al.	600	510	03/31/1997
US-5,984,954	11/16/1999	Cohen, A. M.	607	521	10/01/1997
US-6,161,037	12/12/2000	Cohen, A. M.	600	513	10/26/1999
US-6,192,273	02/20/2001	Igel, D. A., et al.	607	14	12/02/1997
US-6,430,435	08/06/2002	Hsu, William, et al.	600	518	11/20/2000
US-Re., 35,148	01/23/1996	Lizzi, F. L., et al.	348	163	01/20/1995

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T ²
	DE-4405827	06/08/1995	von Bezold, D., et al.	A61B	5/0402	
	EP-0469817	02/05/1992	Larnard, Donald, J., et al	A61N	1/362	
	EP-0506230	09/30/1992	Williams, Michael O.	A61B	5/0464	
	EP-0776630	11/21/1996	William L Post,	A61B	5/0452	
	EP-0776631	11/21/1996	Arand, Patricia A., et al.	A61B	5/0452	
	EP-0848965	06/24/1998	Olson, T. S., et al.	A61N	1/37	
	WO97/39681	10/30/1997	Morris, Milton M., et al.	A61B	5/046	
	WO-98/53879	12/03/1998	Hsu, William, et al.	A61N	1/39	

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		AFONSO, V. X., et al., "ECG Beat Detection Using Filter Banks", <u>IEEE Transactions on Biomedical Engineering</u> , 46, (Feb., 1999), 192-202	
		AFONSO, V. X., et al., "Filter Bank-based ECG Beat Classification", <u>Proceedings of the 19th International Conference -- IEEE/EMBS, Chicago, IL</u> , (Oct. 30-Nov. 2, 1997), 97-100	
		AFONSO, V. X., et al., "Filter Bank-based ECG Beat Detection", <u>Proceedings of the 18th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Amsterdam, The Netherlands</u> , (1996), 1037-1038	
		AFONSO, V. X., et al., "Filter Bank-based Processing of the Stress ECG", <u>1995 IEEE-EMBC and CMBC -- Theme 4: Signal Processing</u> , (1995), 887-888	
		AFONSO, V. X., et al., "Multirate Processing of the ECG using Filter Banks", <u>Computers in Cardiology</u> , (1996), 245-248	

EXAMINER

DATE CONSIDERED

Substitute Disclosure Statement Form (PTO-1448)

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached